

**United States Department of the Interior
Bureau of Land Management
Salem District Office
Marys Peak Resource Area**

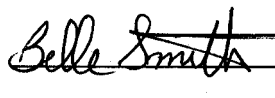
Environmental Assessment Number *OR-080-01-18*

Fiscal Year 2002 Log Placement, Culvert and Stream Restoration

Prepared By: Steve Liebhardt

 Date: *May 15, 2002*

NEPA/ Planner: Belle Smith

 Date: *May 15, 2002*

SUMMARY: The proposed Fiscal Year 2002 Log Placement / Culvert and Stream Restoration project would place log structures into Tobe Creek and Record Creek, and replace culverts that prevent fish passage on Record Creek and a tributary to the North Fork Siletz. These projects would be located in T. 14 S., R.7 W., Section 19, T. 14 S., R.8 W, Section 26, Benton County, and North Fork Siletz in T. 7 S., R. 8 W., Section 32, Polk County. This assessment focuses on the following issues:

Effects of the project on: Aquatic Resources

Special Status species and habitat

Soils

If you have questions about the environmental assessment, please call Steve Liebhardt at (503) 315-5928, Russ Buswell (503) 315-5989 or Steve Cyrus (503) 315-5988. Please send your written comments to Field Manager, Marys Peak Resource Area, Salem District, Bureau of Land Management, 1717 Fabry Road S.E., Salem, Oregon, 97306.

Comments regarding this Environment Assessment and the Finding of No Significant Impact should be received by the BLM, Marys Peak Resource Area by May 30, 2002.

FINDING OF NO SIGNIFICANT IMPACT

INTRODUCTION

The Bureau of Land Management (BLM), Marys Peak Resource Area, has analyzed the potential effects of fish habitat restoration/enhancement in Tobe Creek, Record Creek and a tributary stream to the North Fork Siletz, Marys Peak Resource Area, Benton and Polk Counties, Oregon, within the Upper Siletz and South Fork Alsea Watersheds. The proposed action described in this environmental assessment (EA) include: placement of large woody debris in Tobe Creek and Record Creek, and culvert replacement in Record Creek and a tributary stream to the North Fork Siletz. No logs would be added to the North Fork Siletz tributary. The proposed action would meet the requirements of the Aquatic Conservation Strategy as directed by the Record of Decision for the Salem District Resource Management Plan (RMP, 1995, pp.5-6). The EA is attached to and incorporated by reference in this Finding of No Significant Impact (FONSI) determination.

This FONSI and the EA are being made available for public review prior to making a decision on the action. The public notice of availability for review will be published in the *Corvallis Gazette-Times* newspaper on May 16, 2002 and through notification of interested individuals, organizations, and state and federal agencies.

Finding Rationale

Under the alternatives analyzed, significant impacts on the quality of the human environment would not occur based on the following criteria:

1. The alternatives are in conformance with the following documents which provide the legal framework for management of BLM lands in the Marys Peak Resource Area:

-Record of Decision and Standards and Guidelines for Amendment to the Survey & Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines (S&M ROD, January 2001) and the Final Supplemental Environmental Impact Statement For Amendment to the Survey & Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines (S&M FSEIS, November 2000)

- Salem District Record of Decision and Resource Management Plan (ROD/RMP, May 1995).

- Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl (ROD, April 1994) and the Final Supplemental Environmental Impact Statement on Management of Habitat for Late-Successional and Old-Growth Forest Related Species Within the Range of the Northern Spotted

Owl (SEIS, February 1994).

- *Salem District Proposed Resource Management Plan/Final Environmental Impact Statement* (PRMP/FEIS, September 1994).

The following table shows how this action relates to required components of the Aquatic Conservation Strategy (RMP, pp. 5-7):

Component of the ACS	Relationship of This Action
Riparian Reserves	Riparian Reserve management actions / directions as directed on p.14 of the RMP: "Identify and attempt to secure instream flows needed to maintain riparian resources, channel conditions, and aquatic habitat."
Key Watershed	Tobe Creek is a Key watershed. The North Fork Siletz is a Key watershed (tributary included). Record Creek is not part of a Key Watershed.
Watershed Analysis	<i>South Fork Alsea Watershed Analysis</i> , completed October 1995. Tobe and Record Creek are a part of the South Fork Alsea. <i>Upper Siletz Watershed Analysis</i> completed December 1996.
Watershed Restoration	Complies with Watershed Restoration management actions / direction as directed on p.7 of the RMP: "Restore stream channel complexity. Instream structures will only be used in the short term and not as a mitigation measure."

2. The proposed action and alternatives are in conformance with the ROD/RMP, which describes the general management objectives, land use allocations, and management actions/direction for BLM-administered lands in the Marys Peak Resource Area.

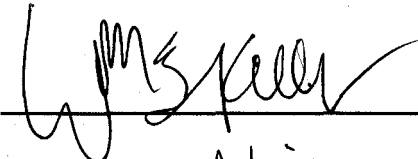
3. The alternatives are consistent with other federal agency and State of Oregon land use plans and with the Benton County land use plan and zoning ordinances. Permits associated with the implementation of this project have been obtained through the Division of State Lands and requirements would be met.

4. No wild and scenic rivers, prime or unique farmlands occur within the project area
5. No known cultural or paleontological resources occur in the project area. A post-project survey would be done upon completion of the project according to *Protocol for Managing Cultural Resources on Lands Administered by the BLM in Oregon, August 5, 1998*.
6. All three projects *may affect*, but are *not likely to adversely affect* northern spotted owls and marbled murrelets for noise disturbance above associated stream and road noise during the latter part of the breeding season. Consultation with the United States Fish and Wildlife Service (service) regarding noise disturbance created by projects in the Marys Peak resource area has been completed as part of the *Programmatic Biological Assessment of Fiscal Year 2002-03 projects in the North Coast Province which might disturb bald eagles, northern spotted owls or marbled murrelets* (Log # 1-7-02-F-422. April 4, 2002).
7. This project meets the terms and conditions set forth in *The Incidental Take Statement for Programmatic Biological Opinion Covering U.S. Forest Service and Bureau of Land Management Administrative Units Within the Coast Range Province, Oregon* (December 21, 2001) for Coastal Coho Salmon, as issued by National Marine Fisheries Service.
8. The proposed action is within the coastal zone as defined by the Oregon Coastal Management Program. This proposal is consistent with the objectives of the program, and the state planning goals which form the foundation for compliance with the requirements of the Coastal Zone Act. Management actions/direction found in the RMP were determined to be consistent with the Oregon Coastal Management Program.
9. No hazardous materials or solid waste would be created in the project area.
10. The project area does not qualify for potential wilderness nor has it been nominated for an Area of Critical Environmental Concern.
11. Project design features would assure that potential impacts to water quality would be in compliance with the State of Oregon In-stream Water Quality Standards and thus the Clean Water Act.
- 12 This project would not have disproportionately high or adverse human health or environmental effects on minority populations or low income populations.
- 13 Future energy resources would not be restricted by the completion of this project thereby complying with the National Energy Policy.

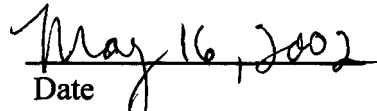
The proposed action is local in nature, and potential adverse impacts would be short-term. Impacts were determined based on observation, and professional training and experience of the interdisciplinary team of BLM natural resource specialists. Determining such environmental effects reduces the uncertainties to a level which does not involve unique risks. The design features identified in the EA would assure that no significant site-specific or cumulative impacts would occur to the human environment other than those already addressed in the EIS.

Finding of No Significant Impact Determination

Based on the analysis of information in the attached EA, my determination is that a new environmental impact statement (EIS) or supplement to the existing FEIS is unnecessary and will not be prepared. The proposed project would not result in significant environmental impacts affecting the quality of the human environment greater than those addressed in the documents listed above.



Field Manager, Acting
Marys Peak Resource Area



Date

Comments regarding this environmental assessment should be received by the Bureau of Land Management, Marys Peak Resource Area by May 30, 2002.

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UNITED STATES DEPARTMENT OF INTERIOR
BUREAU OF LAND MANAGEMENT
SALEM DISTRICT OFFICE

ENVIRONMENTAL ASSESSMENT

EA # OR-080-01-18

FY 2002 Log Placement, Culvert and Stream Restoration

I. Purpose and Need

The proposed action, described and analyzed herein, is intended to restore fish access and add habitat complexity as directed by the *Salem District Record of Decision and Resource Management Plan* (hereafter referred to as the RMP; see pp. 27 and 28). All applicable direction in the *Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl* (ROD), also known as the Northwest Forest Plan, is incorporated in the RMP.

This environmental assessment amendment is tiered to the *Salem District Record of Decision and Resource Management Plan* (RMP, May 1995) and the *Salem District Proposed Resource Management Plan/Final Environmental Impact Statement* (PRMP/FEIS, September, 1994). The FEIS analyzed broad scope issues and impacts within the Northwest Forest Plan's direction to meet the need for forest habitat and forest products (p. 1). The RMP provides a comprehensive ecosystem management strategy for BLM managed lands in the Salem District in strict conformance with the *Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl* (April 1994).

The RMP was signed by the Oregon/Washington State Director of the Bureau of Land Management (BLM) on May 12, 1995. It is based on a comprehensive ecosystem management strategy for federal lands consisting of management objectives, land use allocations, and management actions/direction.

The major objectives of the proposed projects are to improve fish passage and provide in-stream structure and cover for fish to achieve the aquatic conservation objectives (South Fork Watershed Analysis, 1995, pg 94-95), and improve stream crossings (Upper Siletz Watershed Analysis, 1996, Appendix 20).

Watershed restoration is an integral part of the federal strategy to recover fish and riparian habitat and to improve water quality. The primary goals of the proposed projects are to assist in restoring and improving ecological health of watersheds and aquatic systems, while honoring existing road right-of-way agreements.

A. Scoping

Efforts to involve the public in decisions leading up to this proposed action were as follows:

! A description of the proposal was included in the Salem Bureau of Land Management

Project Update (April, 2002) and was mailed to more than 1200 individuals and organizations on the mailing list.

- ! The general area was shown as Riparian Reserve in the Northwest Forest Plan and the RMP. These documents were widely circulated in the state of Oregon and elsewhere, and public review and comment were requested at each step of the planning process.
- ! A legal notice announcing availability of the EA for public review will be published in the *Corvallis Gazette-Times* on May 16, 2002.
- ! Letters announcing the EA availability are being mailed to individuals, interest groups and agencies.
- ! The EA and FONSI are available on the internet at the Salem BLM's website <http://www.or.blm/salem> under planning.

B. Management Objectives by Land Use Allocation and Resource Program

As directed by the Northwest Forest Plan and the RMP, the primary management objectives for the project area are as follows:

Riparian Reserves (RMP pp. 9-15)

1. Provide habitat for special status, SEIS special attention and other terrestrial species.
2. Meet Aquatic Conservation Strategy objectives.

Water and Soil Resources (RMP pp 22-24)

1. Comply with State of Oregon water quality requirements to restore and maintain water quality and to protect recognized beneficial uses in watersheds.
2. Improve and/or maintain soil productivity.

Special Status and SEIS Special Attention Species (RMP pp 29-31)

1. Protect, manage and/or conserve habitat for these species so as not to elevate their status to any higher level of concern.

II. Alternatives

A. Introduction

This section describes the proposed action and no action as identified by the interdisciplinary (ID) team that helped develop this project. They comply with the Standards and Guidelines specified in Appendix A of the *Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl (ROD, April 1994)*.

B. Summary of Alternatives

Alternative 1: Proposed Action

The culverts are located on Tobe Creek in T. 14 S., R. 7 W., Section 19, Record Creek in T. 14 S., R. 8 W., Section 26 and on a tributary to the North Fork Siletz in T. 7 S., R. 8 W., Section 32 (see map). The Siletz River Tributary and Record Creek would have a culvert replaced, whereas the Tobe Creek culvert would only have wood added to the channel to bring the level of the stream bottom up to the level of the culvert.

Tobe Creek

Currently, the Tobe Creek culvert has a small step of approximately 1 foot. The Tobe Creek culvert is fairly new and would not be removed or replaced. Log structures (approximately three log truck loads) would be placed down stream of the culvert to bring the level of the stream bottom up to the level of the culvert. This wood would be placed by machinery using existing skid roads previously used in a restoration project on Tobe Creek completed in 1996. Wood for this project would come from blow down that would be salvaged from Bummer Ridge Road, Rock Creek Road, and from a stock pile located at the North Fork Alsea Fish Hatchery. Several small conifers would be released in the project area by cutting alders adjacent to the stream. This would ensure recruitment of large conifers for coarse large woody debris.

Record Creek Culvert Upgrade

The existing Record Creek culvert would be replaced with a larger culvert (100 year flood) that meets State of Oregon criteria for fish passage and culvert guidance for road crossings. Just down stream of the pool below the culvert, a log jam would be placed to capture material moving down stream and to provide channel structure and cover for fish. Up stream of the new culvert, approximately four logs would be placed at about 10 foot intervals apart, sunken into the stream channel to alleviate some of the channel head cutting that would otherwise be expected. Salvage logs that are currently decked at the North Fork Fish Hatchery would be used. To sink the logs into the channel, machinery would access the flood plain of Record Creek and possibly cross the stream channel. Machinery would operate up stream of the culvert only as far as necessary to get wood down in the channel approximately 50 feet.

North Fork Siletz Tributary

North Fork Siletz Tributary would have a culvert upgrade (100 year flood) to ensure adequate fish passage. No wood placement is planned for this project.

Alternative 2: No Action

Action would not take place, current management would continue.

COMPARISON OF ENVIRONMENTAL CONSEQUENCES, BY ALTERNATIVE, FOR IDENTIFIED ISSUES.

Issue	Alternative 1	Alternative 2
Vegetation	Riparian vegetation would be removed to excavate culverts	Vegetation would remain undisturbed
Soils	Minor displacement of surface soil and slight to moderate compaction where machinery leaves established road. Minor erosion and soil loss would be anticipated where logs are buried in the channel.	Soil would remain undisturbed and would not be compacted
Water/Riparian/Fish	Enhanced channel complexity, fish passage, restored hydrological flow regime and minimal disturbance in riparian areas and minimized head cutting.	Channel complexity would remain low and fish passage would continue to be blocked by perched culvert.
Wildlife	Project would be of a disturbance nature only. No suitable habitat of forest species would be altered.	Wildlife would remain undisturbed.

C. Project Design Features, Mitigation Measures and Best Management Practices

Project design features are operating procedures that would be included in the design and implementation of the proposed action alternative. They also include measures proposed to mitigate potential adverse environmental effects. The design features of this proposal are described below and Best Management Practices are described in Appendix C of the ROD.

1. Scoping Issues

The following issues concerning the proposed action were identified through public scoping and by an interdisciplinary team of BLM natural resource specialists representing various fields of science (see Section V, Interdisciplinary Team Members). Issues that were considered but eliminated from further analysis are documented in Appendix B, Environmental Elements Review Summary.

Botany: Effects on special status/ SEIS special attention species and habitats and noxious weeds.

Soils: Effects on soil displacement and compaction.

Water/Riparian: Effects on stream flow, channel conditions and water quality.

Wildlife: Effects on special status, SEIS special attention and other wildlife species and their habitats.

Fisheries: Effects on fisheries and their habitats.

Design Features (Fish)

- ! Follow Oregon Department of Fish and Wildlife Guidelines for timing of in-water work (July 1 to September 15).
- ! Stabilize potential erosion areas.
- ! Minimize the number of access points through the riparian areas.
- ! Minimize time in which heavy equipment is in the stream channel.
- ! Include an oil spill containment plan.
- ! Control sediment with sediment traps if warranted.
- ! No conifers should be felled in the riparian area unless conifers are fully stocked (for habitat restoration projects)

Design Features (Hydrology)

- ! Bury from one to four logs at bed-level in the channel reach upstream of the culvert replacement (Record Creek).
- ! Measurements of channel cross section upstream and downstream of the culvert (pre- and post- treatment) would serve as effectiveness monitoring for this mitigation measure (bury logs).

Design Features (Wildlife)

- ! Try to implement projects from August 6 through the last day in February. Keep track of project start and end date.
- ! From August 6 to September 15 impose a daily time restriction by allowing work to be done only from two hours after sunrise until two hours before sunset.
- ! Place trees in the streams at the same time the culverts are pulled and replaced to minimize the duration of the noise disturbance.

Project Design (Botany):

- ! The Siletz River culvert replacement project is within the road prism and a botanical

survey will not be conducted.

- ! Management of Survey and Manage Species found as a result of inventories would be accomplished in accordance with the *Record of Decision and Standards and Guidelines for Amendment to the Survey & Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines* (S&M ROD, January 2001) and the *Final Supplemental Environmental Impact Statement For Amendment to the Survey & Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines* (S&M FSEIS, November 2000).
- ! All exposed mineral soil areas (roads to be constructed, cat/skid roads, landings) would be grass seeded with Oregon Certified (Blue tagged) red fescue (*Festuca rubra*) at a rate equal to 40 pounds per acre. The areas would be seeded by the fisheries biologist at the completion of the project.

Design Features (Soil)

- ! Keep heavy equipment on established road areas whenever possible.
- ! Use available skid roads whenever possible.
- ! When machinery operates off road prism, keep machinery on slash or brush when possible.
- ! Minimize turning on track equipment when entering flood plain and placing logs.
- ! Limit number of passes into riparian area.
- ! Armor excavated areas in stream banks when erosion is likely to occur during high flows.

III. Description of the Affected Environment / Environmental Consequences

This section describes the environmental features affected by the proposed project and associated activities, and the environmental consequences which would result from implementing the alternatives. This information is summarized in Appendix B. Resource values are not described in this section if there are no anticipated site-specific impacts, site-specific impacts are considered negligible, or the cumulative impacts described in the existing RMP EIS are considered adequate.

In accordance with statutes, regulations, and executive policies, some resource values and uses must be reviewed in all environmental assessments. A list of these resources and the results of the review for the project area are presented in Appendix B.

A. General

The culverts are located on Tobe Creek in T. 14 S., R. 7 W., Section 19, Record Creek in T. 14 S., R. 8 W., Section 26, and on a tributary to the North Fork Siletz in T. 7 S, R. 8 W., Section 32 (See map). The Siletz River Tributary and Record Creek would have a culvert replaced, whereas the Tobe Creek culvert would only have wood added to the channel to bring the level of the stream bottom up to the level of the culvert. Land use allocation for all project areas are riparian reserve.

B. Topography

Tobe Creek in the vicinity of the project area lies within a narrow, steep-sided canyon, and flows generally north. The elevation of the creek is at 600 feet, with ridgetops on either side of 800 to 1,200 feet. The stream begins on the north slopes of Prairie Mountain at an elevation of 3200 feet and flows into the South Fork Alsea river at 400 feet. Stream gradient in the general area of the project is up to 4.0%.

Record Creek in the vicinity of the project area lies within a relatively broad channel draining gentle terrain, flowing generally northeast. The elevation of the project area is at 500 feet, with ridgetops on either side of 800 to 1,000 feet. The stream begins on a low ridge at an elevation of 800 feet and flows into the Swamp Creek, a tributary to Bummer Creek, at an elevation of 400 feet. Stream gradient in the general area of the project is about 1.0%.

The unnamed tributary to the North Fork Siletz, in the vicinity of the project area lies within a short, steep, v-shaped canyon, flowing generally south. The elevation of the project area is at 1,200 feet. The stream begins at a low gradient in a flat basin at an elevation of 2,500 feet and then drops into a incised channel, emptying into North Fork Siletz River at an elevation of 1,100 feet. Stream gradient in the general area of the project is approximately 5% to 18%.

C. Soils

Affected Environment

Tobe Creek, Record Creek, North Fork Siletz Tributary: Soil material in the general vicinity of these projects is composed primarily of mixed deposits of coarse textured colluvial and alluvial material. This material in the active flood plain, has not remained in place long enough to develop distinct soil horizon characteristics and is generally called colluvial alluvial land. Further away from the streams, there are increasing amounts of colluvial material and clay size particles. Above the flood plain zone, Bohannon and Digger gravelly loam soils are predominant.

Environmental Consequences

Record Creek - Logs to be added to the stream would be placed into the channel above and below the point where the road crosses the stream. Consequently, equipment would need to access the

riparian area off the road bed. Minor displacement of surface soil and slight to moderate compaction where machinery leaves established road would occur. Minor erosion and soil loss would be anticipated where logs are buried in the channel.

Tobe Creek - Where logs are planned for placement in the stream, the stream would be accessed with heavy equipment via the existing skid roads that were used when the stream structures were placed in 1996. The amount of additional disturbance beyond what already exists is expected to be a slight increase in compaction on these skid trails but no measurable decrease in site productivity. The total amount of area affected would be less than 1 acre.

North Fork Siletz Tributary - No logs would be placed in this stream and all work associated with this culvert replacement would be limited to the vicinity of the existing road bed.

D. Botany:

Affected Environment:

Record Creek site is mostly dominated by a red alder canopy cover. It is approximately 80 years-old. The understory is mostly red elderberry and salmonberry. The ground cover is comprised of many forbs and sword-fern. The dominant forbs are; *Oxalis*, *Dicentra*, *Mitella*, *Carex*, *Viola*, *Galium*, *Oenanthe*, *Urtica*, *Athyrium* and a few graminoid species.

Tobe Creek is dominated by big leaf maples and red alder canopy. They are approximately 100 years old. This area has been the site of several botanical surveys when logs were placed into the creek below the culvert several years ago. The shrub layer is mostly salmonberry and many forbs dominate the ground layer.

The major plant grouping, for both sites, as listed in the *Salem District Proposed Resource Management Plan/Final Environmental Impact Statement* (V.1, chapter 3, pp.29-32) is the Douglas-fir/Red Alder/Salmonberry grouping which occurs on the west slopes of the Oregon Coastal Mountains.

Vascular plants:

Inventory of the project area for survey and manage vascular plant species was accomplished in accordance with the survey protocols as described on page 3 of survey Protocols for survey and Manage strategy 2 Vascular Plants, version 2.0, December 1998. Specific surveys for all listed special status and special attention vascular plant species were accomplished on May 13, 2002.

A) Special Status Species

There are no “known sites” of any special status vascular plant species within the project area nor were any found during subsequent surveys.

B) Special Attention Species

There are no “known sites” of any special attention vascular plant species within the project area, nor were any found during subsequent surveys.

Lichens:

Inventory of the project area for survey and manage lichens were accomplished in accordance with the survey protocols as described within the Survey Protocols for Component 2 Lichens version 2.0, March 12, 1998. Inventories for newly assigned lichen species into categories "A" and "C" of the *Record of Decision* and Standards and Guidelines for amendments to the Survey and Manage, Protection buffer, and other Mitigation Measures Standards and Guidelines (S& M ROD) that currently have no protocols were surveyed using the intuitive control method. However, pre-disturbance surveys for these species may not be required for up to two years as described on page 23 of the S&M ROD. Specific surveys for all listed special status and special attention lichen species were accomplished on May 13, 2002.

A) Special Status Species

There are no “known sites” of any special status lichen species within the project area, nor were any found during subsequent surveys.

B) Special Attention Species

There are no “known sites” of any special attention lichen species within the project area, nor were any found during subsequent surveys.

Bryophytes:

Inventory of the project area for survey and manage bryophytes were accomplished in accordance with the survey protocols as described in Survey Protocols For Survey and Manage Component 2 Bryophytes, version 2.0, December 1997 and Survey Protocols for Protection Buffer Bryophytes, version 2.0, December 1999. Specific surveys for all listed special status and special attention bryophyte species were accomplished on May 13, 2002.

A) Special Status Species

There are no “known sites” of any special status bryophyte species within the project area, nor were any found during subsequent surveys.

B) Special Attention Species

There are no “known sites” of any special attention bryophyte species within the project area, nor were any found during subsequent surveys.

Fungi:

Inventory of the project area for survey and manage fungi species were accomplished in accordance with the survey protocols as described in Survey Protocols for (*Bridgeoporus nobilissimus*) Fungi, version 2.0, May 1998. A pre-field review determined that suitable habitat for *Bridgeoporus nobilissimus* does not exist within the project area and a fungi survey was not

warranted.

A) Special Status Species

There are no “known sites” of any special status fungus species within the project area.

B) Special Attention Species

There are no “known sites” of any special attention fungus species within the project area.

Noxious Weeds:

No noxious weeds were found within the proposed project areas.

Environmental Consequences:

Many of the logs would be placed in the creeks from the existing road. Others would need to be placed off of the road. Some vegetation would be knocked down or removed to gain access to place the logs into the streams. For the majority of the project area the roots of shrubs would not be removed and the shrubs would re-sprout in the following spring. Survival for the shrubs in the riparian area is anticipated. After a couple of years it should be hard to identify where the machinery gained access to the creek from the existing roadway, as the brush should become re-established quickly.

The forbs in the area would become re-established through the production of native seed on site. Seeding the exposed mineral soil areas with native grass seed would abate concerns for soil erosion.

Vascular plants:

A) Special Status Species:

The proposed action would not affect any special status vascular plant species since none were found or are known from the project area.

B) Special Attention Species:

The proposed action would not affect any special attention vascular plant species since none were found or are known from the project area.

Lichens:

A) Special Status Species:

The proposed action would not affect any special status lichen species since none were found or are known from the project area.

B) Special Attention Species:

The proposed action would not affect any special attention lichen species since none were found or are known from the project area.

Bryophytes:

A) Special Status Species:

The proposed action would not affect any special status bryophyte species since none were found or are known from the project area.

B) Special Attention Species:

The proposed action would not affect any special attention bryophyte species since none were found or are known from the project area.

Fungi:

A) Special Status Species:

The proposed action would not affect any special status fungi species since none were found or are known from the project area.

B) Special Attention Species:

The proposed action would not affect any special attention fungi species since none were found or are known from the project area.

Noxious Weeds:

The establishment of some noxious weeds that are widespread throughout western Oregon may become established short term. Grass seeding all exposed mineral soil areas would minimize any large infestations. The risk rating for the long term establishment of noxious weed and any adverse affects within the project areas is low.

E. Riparian Ecology

Affected Environment

Stands in the riparian area of Tobe Creek and Record Creek are dominated by red alder and Douglas-fir, in the western hemlock/salmonberry plant association (USDA Forest Service, 1986). Both contain western red cedar as well: mature trees in Record Creek and planted seedlings (1994) in Tobe Creek. Canopy cover on both creeks is high, with densely forested banks. Record Creek contains some very small meadowy openings. Understory vegetation consists of vine maple, salmonberry, scouring rush, thimbleberry, piggy-back plant, deer fern and sword fern. The streambanks are well vegetated, including some wetland vegetation communities on the flood terraces. The low gradient in Record Creek has allowed aquatic plants, such as water starwort (*Callitriche* spp.) to establish.

The substrate in Tobe creek is gravel and cobble, and some clay banks. Twenty-six large log structures placed in the lower stream are generally functional, but a few have been undercut.

Recruitment potential for large woody debris is limited in the reach from the culvert to the mouth. The gradient above the culvert is somewhat higher than that below the culvert, and contains a smaller flood terrace.

Record Creek has a clay bottom and banks. In some places channel cutting is apparent, leaving 2-3' vertical banks. A few logs are suspended across the stream, and recruitment potential for large wood appears to be good. The stream gradient is consistently low above and below the culvert to be replaced.

The tributary to the North Fork Siletz is characterized in the Upper Siletz Watershed Assessment (1996) as low to moderate potential for large woody debris recruitment potential, and at low risk of elevated stream temperature.

Environmental Consequences

Culvert removal and replacement in Record Creek and the North Fork Siletz tributary would have very localized effects on riparian vegetation, expected to be short-term in nature. Direct impact on vegetation would occur from equipment used to place logs in the stream above and below the culvert. Current year vegetation crowns may be damaged or killed over an area of a few hundred square feet (Record Creek). The action could result in small, brief influxes of sediment into the stream. Flow would be low, so little effect on riparian vegetation would be expected. Bedload movement from increased stream velocity above the culvert is expected in Record Creek, but would be mitigated by log placement both above and below the culvert. The increased velocity may reduce the amount of aquatic plants within a short distance above the culvert, mitigated by the placement of four logs above the culvert. Much habitat suitable for aquatic vegetation (low gradient stream reaches) would remain, and gradient would equilibrate over time.

Log placement in Record Creek and Tobe Creek would remove and damage some vegetation in the immediate vicinity of the placement. However, the effect would be very short in duration and would occur late in the growing season after seed has been produced and nutrients reserved in the root systems. Re-vegetation would occur within one growing season by resprouting, seed germination and rhizomes. Salmonberry, the dominant shrub, has an extremely dense network of rhizome containing preformed buds every 2-3 cm (Tappeiner, 1989). Slight increases in water table level and changes in channel width would have little effect, as riparian vegetation is well adapted to fluctuations in water level.

F. Water

Affected Environment

Beneficial uses associated with the water in the project areas include public water supply, private domestic water supply, irrigation, fisheries, wildlife, recreation, and aesthetic quality. Common issues include Oregon Department of Environmental Quality (DEQ) 303d listed streams, water temperature, sedimentation, water quality and rural interface areas. See Tables one through three, for a project-by-project review summary of beneficial uses and common issues.

Record Creek

Record Creek is a low gradient (<1%), meandering channel entrenched in a moderately confined valley. The local bedrock geology is mapped as the Tyee formation, a marine sedimentary deposit (Baldwin, 1955). This area is at the south end along the axis of a large basin called the Alsea Syncline. This basin runs north east several miles past the town of Alsea and has resulted in the formation of the large, flat alluvial valley in the Upper Alsea watershed.

The topography of the area immediately around Record Creek is characteristic of zones subject to deep seated earth flows (*Chatwin et al.*, 1991). In this case, surface movement over north-dipping sedimentary beds has, over several thousand years, yielded deep silty-clay loam soils and high water tables with numerous wetlands (see attached map). A moderately confined valley, approximately 150 feet wide with a gradient of 1.5 percent, has been formed by Record Creek as it entrenched, flowing in a large arc approximately along the northern toe of the slump feature.

Record Creek at the culvert drains a watershed of approximately 500 acres (0.78 mi-sq). A “bankfull” flow at this location would be approximately 45 feet³/second (cfs). Utilizing U.S.G.S. regional regression equations (U.S.D.I., 1979) for the Oregon coast, a 100 year flow event for the culvert at this location would approximate 200 cfs.

The bed, banks and floodplain of Record Creek are composed primarily of sands and silts. Functional channels in this setting are typically Rosgen E or C types (low gradient, entrenchment ratio, and width/depth ratio [w/d ratio] with high sinuosity). Rosgen E or C channels with sand sized bed and silt bank materials are typically vegetatively stabilized and can be highly sensitive to disturbance (*Rosgen*, 1998). The channel upstream from the culvert is a Rosgen “E5” and in functional condition (U.S.D.I., 1998).

Utilizing the Montgomery-Buffington typology (*Montgomery & Buffington*, 1997), this channel would be classified as a “response reach”: low gradient, dune-ripple channel with low transport capacity to supply ratios (i.e., a depositional setting). Dune ripple channels rely on high sinuosity, bed-forms (dunes, ripples, bars) and vegetatively stabilized banks to provide roughness or resistance elements. Over-bank flooding is critical for dissipating the stream flow energy of large storm events and for sediment storage. According to Montgomery & Buffington; “Sediment characteristics, delivery, and transport are generally dominated by fluvial processes in these lower-gradient channels, although forcing by large woody debris and impingement of

channels on valley walls can have a significant influence on the local transport capacity and sediment supply” (*Montgomery & Buffington*). Thus, debris torrents and other colluvial processes that dominate in headwater systems in this region are of less importance to Record creek.

Immediately downstream from the culvert, the channel is moderately incised and shows evidence of disturbance and bank instability. There is an approximate 3-4 foot elevation difference between the channel bed downstream and upstream of the culvert. This channel is “functional at risk” as a result of bed degradation and bank erosion (*U.S.D.I.*, 1998). About 200 feet downstream from the culvert, the channel recovers a functional morphology; further evidence that the primary cause of channel instability was the culvert installation.

The ***Oregon Department of Environmental Quality’s (DEQ)*** 1998 303d List of Water Quality Limited Streams (<http://waterquality.deq.state.or.us/wq/303dlist/303dpage.htm>) is a compilation of streams which do not meet the state’s water quality standards. The list has been approved by the Environmental Protection Agency. Neither the South Fork Alsea or its tributaries are listed in the report. However, the Alsea River is listed as not meeting water quality standards for summer stream temperatures from the mouth to the north/south confluence.

The DEQ has also published an assessment, the 319 Report, which identifies streams with potential non-point water pollution problems (*1988 Oregon Statewide Assessment of Nonpoint Sources of Water Pollution*). The lower South Fork Alsea was identified as having possible “moderate sedimentation” problems. However, no description of the problem has been offered and no supporting sediment data has been located (i.e., the assessment was based on observation).

Beneficial uses of surface water from the project area are displayed in Table 1. There are no known municipal or domestic water users in the project area. Irrigation and livestock watering occur just downstream on private lands with water withdrawal rights. Additional beneficial uses of the stream-flow in the project area include resident fish, recreation, and esthetic values.

Table 1. Beneficial uses associated with streams in the project area.

Stream (Watershed)	Project Action	Beneficial Use	Distance from Project Action	Information Source
Record Creek	Culvert replacement.	Anadromous fish	Immediate (below culvert)	BLM
		Resident fish	Immediate	BLM
		Domestic use	> 10 mile	WRIS*
		Irrigation/live-stock watering	< 1 mile	WRIS*

* WRIS = *Water Rights Information System* of the Oregon Department of Water Resources

Siletz River Tributary

This unnamed tributary is a Rosgen B2/3 (5-18 percent gradient, deeply entrenched, low width/depth ratio and meander with boulder-cobble substrate) in a confined valley setting (Rosgen, 1996). The local bedrock geology is mapped as the Siletz volcanics formation, a marine basalt deposit (Walker *et al*, 1991). It is moderately to fully confined in a steep walled colluvial valley with a gradient near the culvert of approximately 4 percent.

The channel appears to be in functional condition with stable banks, good water quality and moderate levels of large wood (U.S.D.I., 1998). It has a large supply of substrates, mostly boulder and cobbles, which appear to be the result of debris torrents and landsliding on higher gradient slopes in the channels headwaters. Debris torrents are part of the natural processes in this area and steep headwater channels provide much of the sediment and large wood (LWD) to lower channels in mountain regions (Mc Garry, 1994).

Utilizing the Montgomery-Buffington typology (Montgomery & Buffington, 1997), this channel would be classified as a “Cascade”: moderately steep, boulder-cobble bed, with a random bed-form pattern and high transport capacity to supply ratios (i.e., an erosional setting). These channels rely on substrate and bank materials to provide roughness or resistance elements. Dominate sediment sources are fluvial, hillslope, and debris flows.

The channel at the culvert drains a watershed of approximately 556 acres (0.87 mi-sq). A “bankfull” flow at this location would be approximately 56 feet³/second (cfs).

The ***Oregon Department of Environmental Quality’s (DEQ)*** 1998 303d List of Water Quality Limited Streams (<http://waterquality.deq.state.or.us/wq/303dlist/303dpage.htm>) is a compilation of streams which do not meet the state’s water quality standards. The list has been approved by the Environmental Protection Agency. Neither the North Fork Siletz or its tributaries are listed in the report.

Beneficial uses of surface water from the project area are displayed in Table 2. There are no known municipal or domestic water users in the project area. Irrigation and livestock watering occur in the Siletz valley several miles downstream from the project area. Additional beneficial uses of the stream-flow in the project area include resident fish, recreation, and esthetic values.

Table 2. Beneficial uses associated with streams in the project area.

Stream (Watershed)	Project Action	Beneficial Use	Distance from Project Action	Information Source
North Fork Siletz	Culvert replacement.	Anadromous fish	Immediate	BLM
		Resident fish	Immediate	BLM
		Domestic use	> 10 mile	WRIS*
		Irrigation/live-stock watering	> 10 mile	WRIS*

* WRIS = *Water Rights Information System* of the Oregon Department of Water Resources

Tobe Creek

Tobe Creek, in the project reach, is a Rosgen B4 (2-4% gradient, moderate entrenchment, width to depth ratio, and meander) in a confined valley setting (*Rosgen*, 1998). The local bedrock geology is mapped as the Siletz volcanics formation, a marine basalt deposit (*Baldwin*, 1955). It is moderately to fully confined in a steep walled colluvial valley with a gradient near the culvert of approximately 3.5 percent.

Tobe appears to be in functional condition with stable banks, good water quality and moderate levels of large wood (*U.S.D.I.*, 1998). It has a large supply of substrates, mostly gravels and cobbles, which appear to be the result of debris torrents and landsliding on higher gradient slopes in the channels headwaters. Debris torrents are part of the natural processes in this area and steep headwater channels provide much of the sediment and large wood (LWD) to lower channels in mountain regions (*Mc Garry*, 1994).

Utilizing the Montgomery-Buffington typology (*Montgomery & Buffington*, 1997), this channel would be classified as a “Forced Plane bed” channel: moderately steep, gravel-cobble bed, with bed- form patterns “forced” by a random pattern of wood accumulation and high transport capacity to supply ratios (i.e., an erosional setting). These channels rely on substrate and bank materials to provide roughness or resistance elements. Dominate sediment sources are fluvial, bank failure, and debris flows.

Tobe Creek at the culvert drains a watershed of approximately 1,600 acres (2.5 mi-sq). A “bankfull” flow at this location would be approximately 150 feet³/second (cfs). Utilizing U.S.G.S. regional regression equations (*U.S.D.I.*, 1979) for the Oregon coast, a 100 year flow event for the culvert at this location would approximate 550 cfs.

The *Oregon Department of Environmental Quality’s (DEQ)* 1998 303d List of Water Quality Limited Streams (<http://waterquality.deq.state.or.us/wq/303dlist/303dpage.htm>) is a compilation of streams which do not meet the state’s water quality standards. The list has been approved by the Environmental Protection Agency. Neither the South Fork Alsea or its tributaries are listed in the report. However, the Alsea River is listed as not meeting water quality standards for summer stream temperatures from the mouth to the north/south confluence.

The DEQ has also published an assessment, the 319 Report, which identifies streams with potential non-point water pollution problems (*1988 Oregon Statewide Assessment of Nonpoint Sources of Water Pollution*). The lower South Fork Alsea was identified as having possible “moderate sedimentation” problems. However, no description of the problem has been offered and no supporting sediment data has been located (i.e., the assessment was based on observation).

Beneficial uses of surface water from the project area are displayed in Table 3. There are no known municipal or domestic water users in the project area. Irrigation and livestock watering occur in the Alsea valley, near the town of Alsea, just downstream from the project area. Additional beneficial uses of the stream-flow in the project area include resident fish, recreation, and esthetic values.

Table 3. Beneficial uses associated with streams in the project area.

Stream (Watershed)	Project Action	Beneficial Use	Distance from Project Action	Information Source
South Fork Alsea	Tree placement in channel.	Anadromous fish	Immediate	BLM
		Resident fish	Immediate	BLM
		Domestic use	> 10 mile	WRIS*
		Irrigation/live-stock watering	1 mile	WRIS*

* WRIS = *Water Rights Information System* of the Oregon Department of Water Resources

Environmental Consequences

Tobe Creek

Placing LWD structures into Tobe Creek is anticipated to directly effect streamflow and channel morphology by altering channel geometry, reducing stream velocity and redirecting flow around the obstructions. Site specific affects can be anticipated, but cannot be precisely predicted. These include: reductions in stream gradient and flow velocity upstream of obstructions with consequent deposition of suspended materials and a fining of (i.e., reduction in the medium particle size) of channel substrates; bed scour and increased velocities downstream of obstructions; increased bank erosion in areas where logs divert stream flow into the bank; reductions in bank erosion in areas where logs divert flows away from the banks. Overall, the increase in large wood in the channel is expected to decrease transit time for organic and inorganic materials moving through the system, increase hydraulic “complexity,” increase bank erosion (for the first several years), increase the quantity of sediment transported in the channel but reduce its rate of transport, increase sediment storage, increase complexity and alter the ratio of bed forms (i.e, pools and riffles) and increase over bank flood flows.

All of these affects are anticipated to be highest immediately after project implementation with a gradual diminution until a form of dynamic equilibrium is reached. Again, this can be anticipated but not precisely predicted because timing of this process would be highly dependent upon the timing, quantity and size of winter peak flow events, which are highly stochastic in nature. In addition, over time the retained logs are expected to trap wood moving downstream and trees in the riparian canopy would continue to grow, age and eventually fall into the channel. This would result in continued increases in the quantity and complexity of wood in the channel over the next century.

It is anticipated that these alterations to channel morphology and hydraulics would directly increase habitat diversity, aquatic community complexity and structure, and the diversity of aquatic organisms to the benefit of aquatic species in Tobe Creek (*Wallace et al.*, 1995). This action would support achievement of ACS objectives.

North Fork Siletz Tributary

Replacement of the culvert at this location with a new culvert rated for a 100- year discharge event would likely have little or no long-term measurable effects to water quality, channel morphology, or watershed hydrology. A larger culvert would reduce the risk of culvert failure and would allow for easier passage of material moving downstream through the channel.

Short term effects might include adjustments in the channel bed and small increases in local stream turbidity. These affects are anticipated to be highest immediately after project implementation with a gradual diminution until a form of dynamic equilibrium is reached. Again, this can be anticipated but not precisely predicted because timing of this process would be highly dependent upon the timing, quantity and size of winter peak flow events, which are highly stochastic in nature.

Best management practices (BMPs) and mitigation measures are proposed to eliminate and/or limit acceleration of sediment delivery to streams in the project area. These include limiting activity to dry soil conditions, limiting heavy equipment movement (in particular stream crossings) to the lowest level necessary to efficiently complete the project, and seeding of any surfaces outside the channel that have been exposed and have potential to erode. Together these practices are expected to nearly eliminate any measurable additions of sediment to the stream channel as a result of project implementation.

Record Creek

Measurable effects to channel morphology and water quality as a result of this proposed action are anticipated. By lowering stream bed elevation at the culvert entrance by three or more feet, the proposal may induce channel grade instability. A sudden drop in bed elevation in this type of channel could potentially result in moderate to severe channel head-cutting as the “nick-point” migrated upstream. This would be partially mitigated by placement of logs in the channel upstream of the culvert.

An analysis of this channel's hydraulics showed that, assuming an increase in channel depth of two feet from head cutting, average channel shear stress for a two year flow event would more than double from 0.3 lbs/ft² to 0.7 lbs/ft². Under these circumstances (without logs placed upstream of culvert), bed and bank erosion would likely be steeply accelerated. Under a worse case scenario, the upstream channel reach could be altered to a deeply incised gully with severe bank erosion and degraded channel morphology, aquatic habitat and water quality. Obviously, these effects would not meet Aquatic Conservation Strategy objectives (ACS). Logs placed upstream of the culvert would alleviate some channel head cutting.

No Action Alternative

Tobe Creek would not have wood placed in the channel and the current step would continue and most likely increase, further inhibiting fish passage.

Record Creek would not have the culvert replaced and would continue to have fish passage problems. LWD would remain low in the channel.

The North Fork Siletz tributary would not have the culvert replaced and current trends would continue.

G. Fish

Affected Environment

Record Creek provides habitat for Steelhead trout (*Onchorynchus mykiss*), Coho salmon (*Onchorynchus kisutch*) and cutthroat trout (*Onchorynchus clarki*). Anadromous habitat extends approximately 1/3 mile above the culvert to be replaced. Habitat quality for fish is generally poor due to lack of spawning gravels, sediment and low amounts of Large Woody Debris (LWD).

Tobe Creek provides habitat for Steelhead trout, Coho Salmon, Chinook Salmon and cutthroat trout. Habitat above the culvert is good with coastal stream pool riffle habitat. Large amounts of LWD has created off channel pools and complex habitat types providing cover and diverse habitat types. Dominant substrate is cobbles and gravel. Anadromous habitat extends approximately one mile above the culvert.

North Fork Siletz Tributary provides habitat for cutthroat trout and steelhead and Chinook salmon. Habitat above the culvert is typical steep coastal stream pool step pool and cascade habitat. Dominant substrate is boulder and cobbles.

Environmental Consequences

The Tobe Creek channel would begin to aggrade as material collects in front of the placed in-stream log structures. Over time, this would bring the stream level up to the culvert level, alleviating the step that is currently down stream of the culvert. This would provide benefits to fish using the stream for spawning habitat, high water cover (use of structures), fish passage and an increase in habitat diversity.

Negative impacts associated with this project would most likely be small and short term due to changes in channel flow and some minor riparian vegetation loss that would quickly recover.

Record Creek

Fish would be able to access the upper reaches of Record Creek with the newly placed 100- year flood culvert. Logs placed upstream of the new culvert would help alleviate head cutting, however some head cutting is still anticipated. Short term negative impacts would most likely occur due to increased turbidity. These impacts would probably happen during rain event. Long term impacts would benefit fish due to increased habitat availability, increased channel complexity and cover from the addition of LWD.

North Fork Siletz Tributary

This stream would down cut only a small amount due to higher gradients just up stream. A new culvert would allow fish passage, and prevent the road from scouring out during large rain events due to the small size of the current culvert.

Short term negative impacts would most likely occur due to increased turbidity. These impacts would probably happen during rain events and would be short term.

No Action Alternative

Tobe Creek

No action would keep habitat conditions the same and the step into the culvert would eventually increase. This would prevent even more fish from utilizing the upper reaches of Tobe Creek. Without the addition of wood to the channel, the complexity of the stream channel would remain the same. Overwintering habitat is currently the limiting factor in Tobe Creek and throughout most of the Coast Range.

Record Creek and the North Fork Siletz Tributary would continue having fish passage problems through the existing culverts. Current habitat conditions show very little complexity and cover for fish. This poor habitat would generally continue with fewer and fewer fish accessing the upper reaches of each stream.

Determinations

These culvert upgrades and LWD projects are Likely to Adversely Affect Oregon Coast Coho Salmon within the Oregon Coast Range Province due to increases in turbidity and sediment delivery to streams. This project meets the terms and conditions set forth in The Incidental Take Statement for Programmatic Biological Opinion Covering U.S. Forest Service and Bureau of Land Management Administrative Units Within the Coast Range Province, Oregon (December 21, 2001) for Coastal Coho Salmon, issued by National Marine Fisheries Service.

H. Wildlife

Affected Environment

All three sites occur in Late-Successional Reserve (LSR), Riparian Reserve (RR), and marbled murrelet designated critical habitat. The culvert replacement on a tributary to the North Fork Siletz occurs in the Upper Siletz River Watershed and is surrounded by a large stand of mid-seral (40-79 years old) upland habitat. This site is also within designated northern spotted owl critical habitat and is about 0.30 mile from a small stand which is occupied marbled murrelet habitat. The two remaining projects, occur in the Upper Alsea River Watershed and are surrounded by late-seral and old-growth habitats. The Tobe Creek site is in owl critical habitat and within murrelet occupied habitat.

Environmental Consequences

Negative impacts to terrestrial habitats are not anticipated at these sites since no trees would be cut to provide the large woody debris for the streams, and since the operations would occur on existing roads, skid trails and within the stream channel.

Determinations

1. These actions would have no effect on the bald eagle.
2. These actions would not adversely modify or destroy designated critical habitat for the northern spotted owl or marbled murrelet.
3. These actions would have no effect on owl or murrelet suitable habitat.
4. These actions would not significantly impact Survey and Manage mollusk habitat or red tree vole habitat.
5. All three projects *may affect*, but are *not likely to adversely affect* owls and murrelets for noise disturbance above associated stream and road noise during the latter part of the breeding season. Consultation with the USFWS regarding noise disturbance created by all FY2002-2003 projects in the Marys Peak resource area has been completed as part of the *Programmatic Biological Assessment of Fiscal Year 2002-2003 projects in the North Coast Province which might disturb bald eagles, northern spotted owls or marbled murrelets* (Log # 1-7-02-F-422. April 4, 2002).

IV. Monitoring

Monitoring would be accomplished through contract administration and in accordance with monitoring guidelines in Appendix J of the RMP.

V. Consultation

The proposed project was submitted for informal consultation to the U.S. Fish and Wildlife Service (FWS) in March 2002. A Letter of Concurrence (Log # 1-7-02-F-422. April 4, 2002) on this informal consultation was received April 4, 2002. The proposed action is considered a “may affect, not likely adverse affect” for noise disturbance to northern spotted owls and marbled murrelets.

This project meets the terms and conditions set forth in *The Incidental Take Statement for Programmatic Biological Opinion Covering U.S. Forest Service and Bureau of Land Management Administrative Units Within the Coast Range Province, Oregon* (December 21, 2001) for Coastal Coho Salmon, as issued by National Marine Fisheries Service.

VI. INTERDISCIPLINARY TEAM MEMBERS

NAME	TITLE	DATE/INITIAL
Gary Licata	Wildlife Biologist	5.14.02 gal
Tom Tomczyk	Soil Scientist/Fuels Specialist	TST 5/9/2002
Ron Exeter	Botanist	MAY 5-15-2002 RH
Hugh Snook	Ecologist	MAY 9, 2002 LHS
Tom Vanderhoof	Cultural Specialist	MV 5/14/02
Steve Liebhardt	Fisheries Biologist	SL 5/14/02
Patrick Hawe	Hydrologist	PH 5/15/02
Steve Cyrus	Civil Engineer Technician	S.C. 5/14/02
Russ Buswell	Civil Engineer Technician	RAB 5/14/02
Belle Smith	NEPA Coordinator	BS 5/15/2002

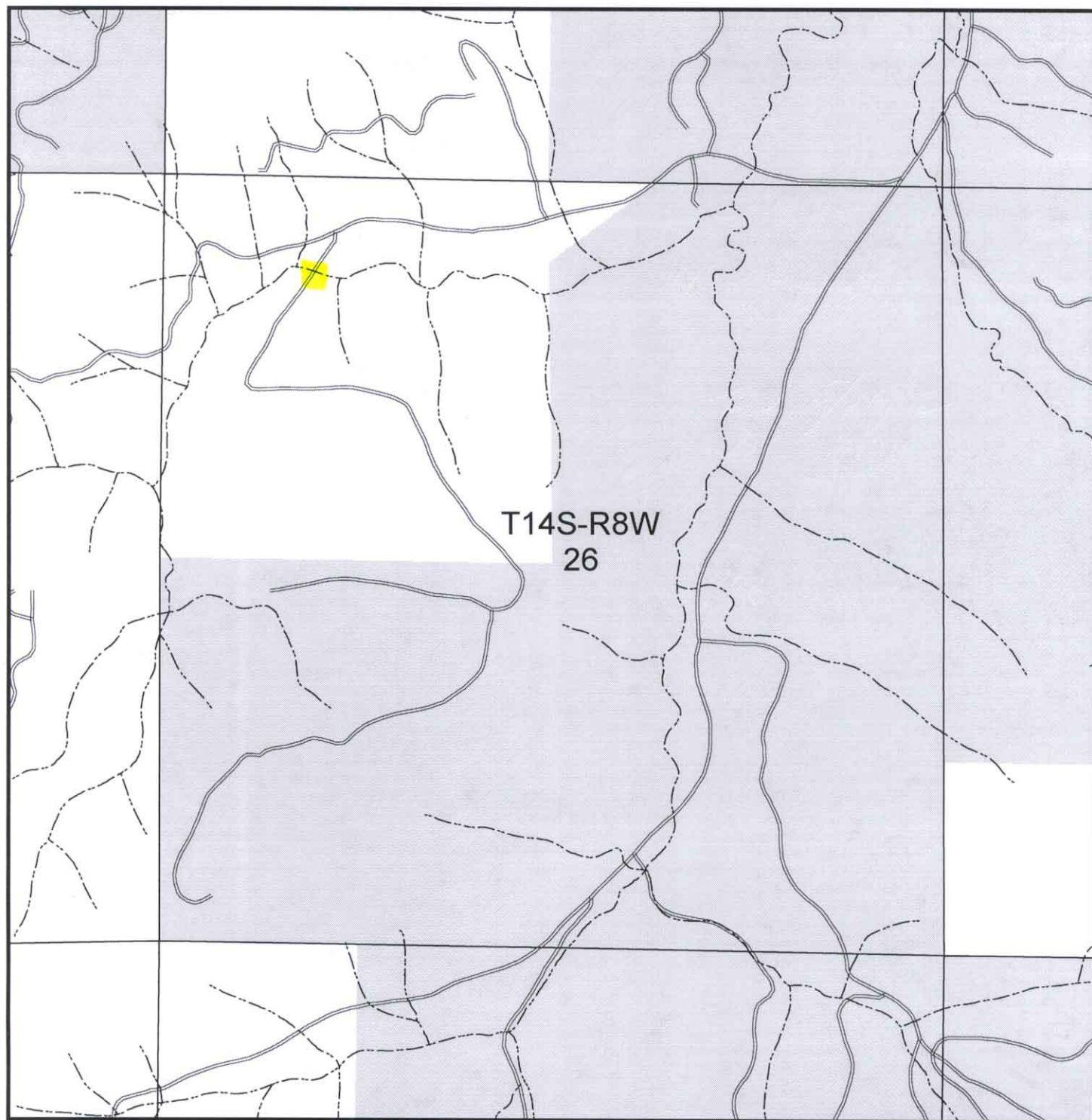
APPENDIX A: Project Maps

Map 1: Project area

Map 2: Sale Area Location

Record Creek Culvert Location

T14S-R8W, Sec. 26



Scale 1:12,000



OTHER FEATURES

 Non-BLM Lands

 - Culvert Location

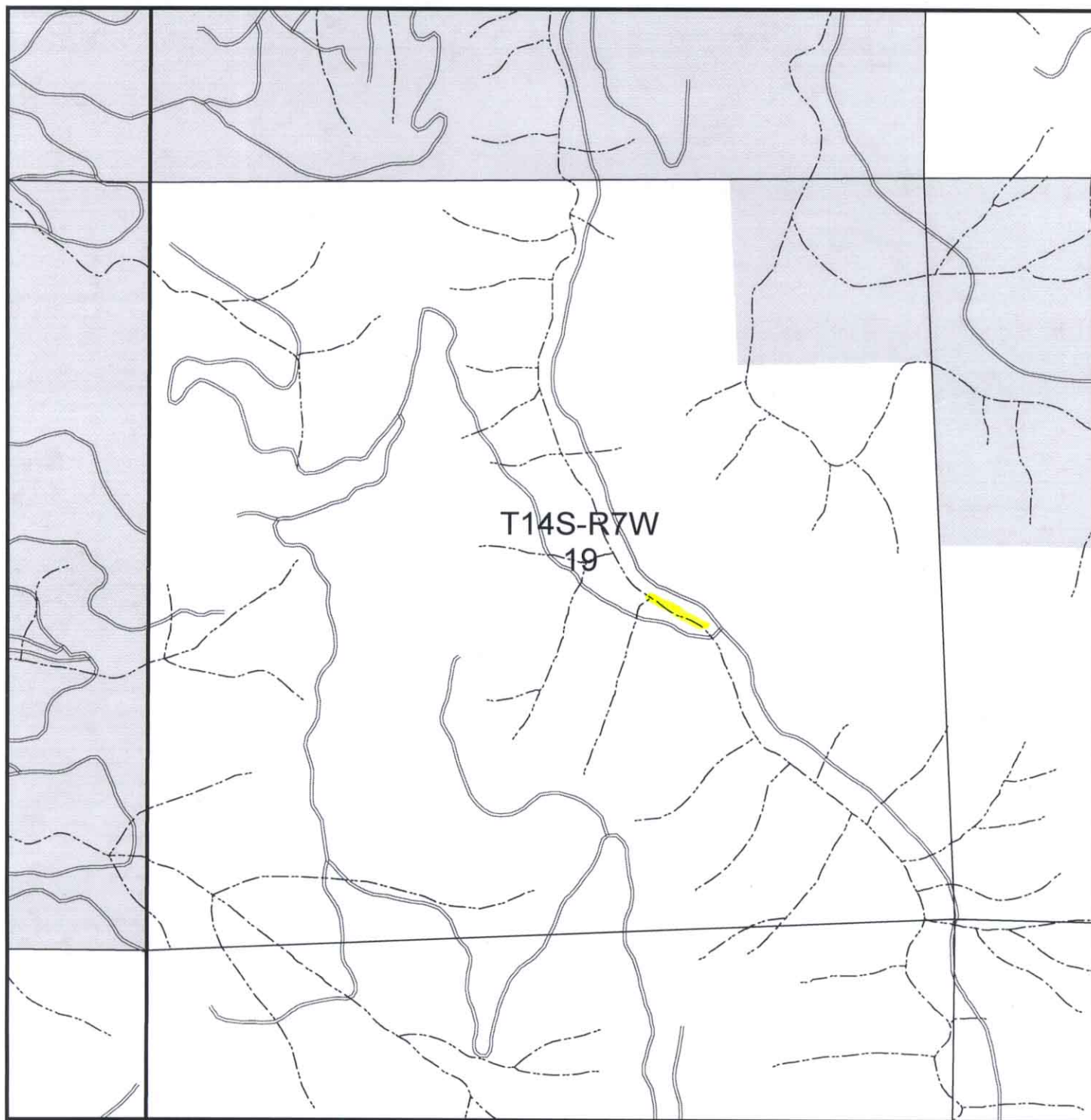


No warranty is made by the Bureau of Land Management for use of the data for purposes not intended by the Bureau of Land Management.

May 14, 2002

Tobe Creek Wood Placement

T14S-R7W, Sec. 19



Scale 1:12,000



OTHER FEATURES

 Non-BLM Lands

 - LWD Placement

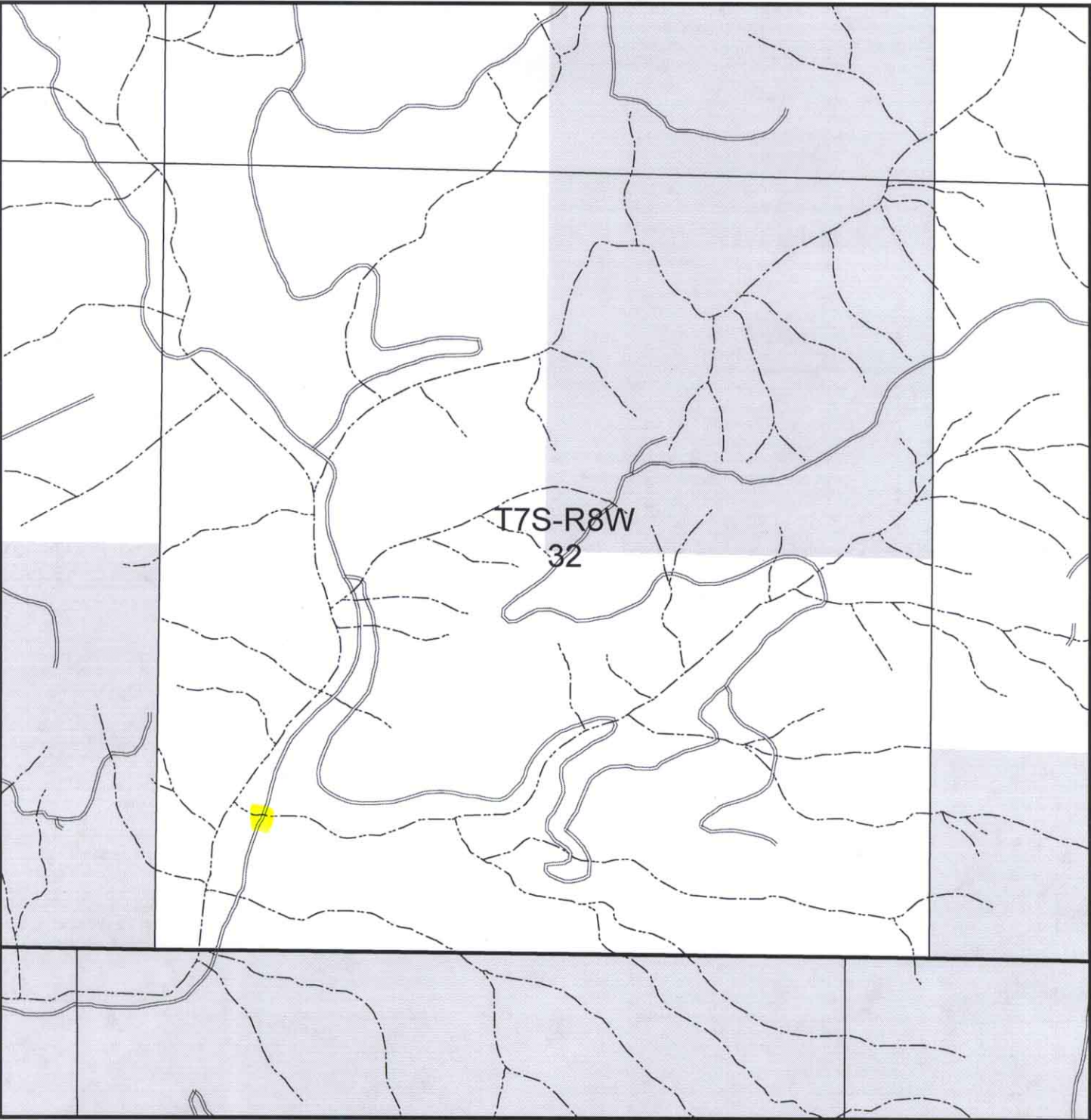


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May 14, 2002

North Fork Siletz Tributary

T7S-R8W, Sec. 32



Scale 1:12,000



OTHER FEATURES

Non-BLM Lands

Culvert Location



No warranty is made by the Bureau of Land Management for use of the data for purposes not intended by the Bureau of Land Management.

May 14, 2002

APPENDIX B: ENVIRONMENTAL ELEMENTS REVIEW SUMMARY

Environmental Elements Review Summary

The following table summarizes environmental features which the Bureau of Land Management is required by law or policy to consider in all Environmental Documentation (BLM Handbook H-1790-1, Appendix 5: Critical Elements of the Human Environment).

Environmental Feature		Affected / Not Affected	Remarks (Potential for Effect)
Air Quality		Not Affected	Would not affect air quality.
Areas of Critical Environmental Concern		Not Affected	Not in or adjacent to ACEC.
Cultural, Historic, Paleontological		Not Affected	No pre-project survey required as outlined in the protocol for managing cultural resources on Land administered by the BLM in Oregon Appendix D- Coast Range Inventory Plan
Prime or Unique Farm Lands		Not Affected	No prime or unique farm lands in or adjacent to project areas
Flood Plains		Affected	Minor displacement of surface soil and slight to moderate compaction where machinery leaves established road. Minor erosion and soil loss would be anticipated where logs are buried in the channel.
Native American Religious Concerns		Not Affected	None known
Threatened, Endangered, or Special Status Plant Species, or Habitat		Affected	Date of Survey: (Spring / Summer 2002)
Threatened, Endangered, or Special Status Animal Species or Habitat	Fisheries	Affected	This project adheres to the terms and conditions set forth in The Incidental Take Statement for Programmatic Biological Opinion Covering U.S. Forest Service and Bureau of Land Management Administrative Units Within the Coast Range Province, Oregon (December 21, 2002).

	Wildlife	Affected	All appropriate mitigation has been incorporated into design features. Log # 1-7-02-F-422
Hazardous or Solid Wastes		Not Affected	No hazardous or solid waste on site nor would be created.
Water Quality (Surface and Ground)		Affected	See Water Section of EA pg. 11
Wetlands or Riparian Zones		Affected	Minor displacement of surface soil and slight to moderate compaction where machinery leaves established road. Minor erosion and soil loss would be anticipated where logs are buried in the channel.
Wild and Scenic Rivers		Not Affected	No Wild and Scenic Rivers in or adjacent to the project areas.
Wilderness		Not Affected	No Wilderness areas in or adjacent to the project areas.
Invasive, Nonnative Species		Affected	See Botany Section of EA pg. 9
Environmental Justice		Not Affected	Project would not have disproportionately high or adverse human health or environmental effects on minority populations or low income populations.
National Energy Policy		Not Affected	Future energy resources would not be restricted.

COMMON ISSUES REVIEW

Resources	Affected/Not Affected	Remarks
Special Attention Animal Species and Habitat	Affected	See affect determination
Special Attention Plant Species and Habitat	Affected	No known sites in the project area, surveys to be completed in the spring 2002.

Minerals	Not Affected	No known mining claims or mineral leases within project area.
Land Uses	Not Affected	VRM IV
Soils & Sedimentation	Affected	See Soils section.
Water: DEQ 303(d) Listed Streams Water Temperature Water Quantity	May be affected	See Water section pg. 11
Rural Interface Areas	Not affected	This project is not in a rural interface area.

RMP Compliance Review Summary (Salem District Resource Management Plan 1995)

This table describes the environmental features, issues or management objectives not covered in Appendix A and C.

Ecosystem Management Goals (RMP page 5)			
Goal	Applicable Land Use Allocations	Does the project meet this goal?	Remarks / References
Maintain late successional and old growth species habitat and ecosystems	Late Successional Reserves, Riparian Reserves, and Special Management Areas	Yes <u>X</u> No <u> </u>	Old Growth species and habitat would be maintained.
Maintain biological diversity associated with native species in accordance with laws and regulations.	All Land Use Allocations	Yes <u>X</u> No <u> </u>	Biological diversity would be maintained and would not be affected by this project.

SEIS Special Attention Species and Habitats (RMP pages 30-33)			
Environmental Feature		Affected / Not Affected	Remarks
Survey and Manage Species	Wildlife	Not Affected	All appropriate mitigation has been incorporated into design features. (Log #1-7-02-F422)
	Plant		Date Surveys Complete: (Spring / Summer 2002)
Protection Buffer Species			Date Surveys Complete: (Spring / Summer 2002)

Appendix C

AQUATIC CONSERVATION STRATEGY OBJECTIVES REVIEW SUMMARY (RMP pages 5-6)		
ACS Objective	Does the project meet ACS objectives?	Remarks / References
1) Maintain and restore distribution, diversity, and complexity of watershed and landscape features to ensure protection of aquatic systems.	Yes <u> X </u> No <u> </u>	This project is designed to enhance habitat diversity which would contribute to maintaining the distribution, diversity and complexity of watershed and land scape features. Replacing under sized culverts would obtain adequate fish passage.
2) Maintain and restore spatial connectivity between watersheds.	Yes <u> X </u> No <u> </u>	This project is designed to reconnect stream channels by replacing culverts with fish passage culverts. LWD would aid in streams interacting with their flood plains.
3) Maintain and restore physical integrity of the aquatic system including shorelines, banks and bottom configurations.	Yes <u> X </u> No <u> </u>	Replacing under sized culverts with 100 year flood size culverts and having them countersunk into the channel would allow natural material to deposit throughout the pipe.
4) Maintain and restore water quality necessary to support healthy riparian, aquatic, and wetland ecosystems.	Yes <u> X </u> No <u> </u>	This project is not designed to improve water quality. Small short term increases in sediment may occur, but design features (seasonal restrictions, short skid trails, etc.) would keep sediment to a minimum. Long term benefits include higher stream complexity and removal of fish passage barriers.
5) Maintain and restore the sediment regime under which the system evolved.	Yes <u> X </u> No <u> </u>	LWD functions to sort and store sediment in channels. Small short term inputs of sediment may occur, but would be kept to a minimum due to design features. These possible small inputs of sediment at the 5 th field watershed scale are negligible.

ACS Objective	Does the project meet ACS objectives?	Remarks / References
6) Maintain and restore in-stream flows.	Yes <u> X </u> No <u> </u>	Existing flows would not be modified and would have stream flows remain uninterrupted by culvert steps/ barriers
7) Maintain and restore the timing, variability, and duration of flood plain inundation and water table elevation in meadows and wetlands.	Yes <u> X </u> No <u> </u>	Placement of LWD would help flows access the flood plain. However, this project would not affect the timing or variability
8) Maintain and restore the species composition and structural diversity of plant communities in riparian zones and wetlands to provide thermal regulation, nutrient filtering, and appropriate rates of bank erosion, channel migration and CWD accumulations.	Yes <u> X </u> No <u> </u>	Project design minimizes the riparian disturbance, however disturbed areas would be seeded with native grass seed. Due to floodplains having the flow reintroduced, riparian plant communities should benefit from this action.
9) Maintain and restore habitats to support well-distributed populations of native plant, invertebrate, and vertebrate riparian dependent species.	Yes <u> X </u> No <u> </u>	There would be benefits to wetland function, riparian plants and other riparian dependant species. LWD would aid in streams interacting with their flood plains.

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